ABSTRACT OF THE DISCLOSURE

A steady-state method for producing gas hydrates provides seed gas hydrate particles in a reaction chamber, flows a hydrate-forming gas into the reaction chamber and flows water into the reaction chamber to produce several possible reactions. One reaction occurs from the combination of the seed gas hydrate particles, the hydrate-forming gas and the water to provide gas hydrate growth onto the seed gas hydrate particles. Another reaction occurs from the interaction of the hydrate-forming gas and the water to form new gas hydrate particles. Material is removed from the reaction chamber and fragmented and some of fragmented gas hydrate particles are recycled back into the reaction chamber.